

Mexico's Water Debt: 2010 to 2014

The Rio Grande serves not only as a natural international boundary between the state of Texas in the United States and Mexico, but also as an important water source to businesses and families living in the Lower Rio Grande Valley of Texas. The river is shared between Mexico and the United States by a series of agreements, but recent decisions by Mexico to use water within the country rather than deliver required amounts to the United States have put a strain on these cooperative relationships.

The Rio Grande

The river and its tributaries deliver water from storage reservoirs located in Mexico and two international reservoirs, Falcon and Amistad, for agricultural producers and cities across the border region in Texas.

The International Boundary and Water Commission (IBWC) was created by Mexico and the United States to oversee operations of the Rio Grande and compliance with the 1944 Water Treaty.

The 1944 Water Treaty: Defines how the United States and Mexico share water in the Rio Grande, Colorado, and Tijuana Rivers.

The United States gives water to Mexico from the Colorado River. 1.5 million acre-feet per year Mexico gives water to the United States from the Rio Grande. A minimum of 350,000 acre-feet per year in cycles of 5 years.

1 acre-foot equals 326,000 gallons, which is a year's worth of water for a family of four.

Mexico is racking up a major debt this cycle.

The Current Cycle

Graphic showing required deliveries by October 2015 in accordance with the treaty, deliveries that should have been made from October 2010 to July 2014, and deliveries that have actually been made as of July 26th, 2014. Mexico has only delivered seventy two percent during the current cycle as of July 26th, 2014 creating a deficit of 361,000 acre-feet.

Graphic showing reservoir levels as of July 26, 2014. Amistad is at fifty four percent normal capacity for the United States. The United States has 988,000 acre-feet and Mexico has 297,000 acre-feet in Amistad. Falcon is at twenty seven percent normal capacity for the United States. The United States has 421,000 acre-feet and Mexico has 409,000 acre-feet in Falcon.

On the whole Mexican reservoirs are at fifty two percent normal capacity as of July 26, 2014, but the Luis Leon Reservoir is at seventy percent normal capacity. The Luis Leon Reservoir in Mexico is on the Rio Conchos, a tributary to the Rio Grande. (Source: International Boundary and Water Commission (IBWC). Online. [International Boundary and Water Commission Webpage](#))

Impacts of Water Debt: During the last Mexican water debt, South Texas counties experienced a significant decrease in crop acreage, affecting economies dependent on agriculture.

Between 1992 and 2002 Mexico Accumulated a water debt of 1.5 million acre-feet. Between 1992 and 2002, Cameron, Hidalgo, Starr, and Willacy Counties on average saw a thirty four percent decrease in crop acreage.

Vegetables, cotton, and sorghum suffered the worst in the Lower Rio Grande Valley from the beginning of the water debt in 1992 to the height of the water debt in 2002. These are irrigationheavy row crops.

Graphic showing seventy percent decrease in sorghum harvested crop acreage in Starr County, ninety nine percent decrease in vegetables harvested crop acreage in Hidalgo County, eighty percent decrease in cotton harvested crop acreage in Willacy County, and seventy five percent decrease in vegetables harvested crop acreage in Cameron County. (Source: United States Department of Agriculture. 1992 and 2002 Census of Agriculture. Online.

[Agricultural Census](#))

Economic Impact

2002 decrease in crop acreage generated a loss of \$135 million in business activity and a loss of 4,130 jobs. 2013 decrease in crop acreage is projected to generate a loss of \$218 million in value added, \$395 million in economic output, and 4,840 jobs. (Source: Ribera, Luis, Dean McCorkle. "Economic Impact Estimate of Irrigation Water Shortages on the Lower Rio Grande Valley Agriculture." Texas A&M AgriLife Extension, June 2013.)

Irrigation districts supply water for agricultural and municipal use. Some irrigation districts in the Lower Rio Grande Valley are expected to run out of irrigation water, impacting municipal water deliveries to more than 800,000 residents. Affected communities are being forced to spend funds to purchase water – funds for which they originally had not budgeted. (Source: Texas Commission on Environmental Quality)

Drought Conditions: forecasts predict another hot and dry summer in 2014

High temperatures plus low water equals continuing drought. Sporadic rainfall projected for summer 2014 will temporarily raise water levels in reservoir, but high temperatures will increase evaporation or loss of water from reservoirs.

The Bottom Line

Cities and communities in the Rio Grande Valley will continue to feel the negative impacts of extreme drought conditions and water shortage from the current deficit – a man-made drought. In 2005, Mexico successfully worked with the United States to resolve the water debt with contributions from various water sources. A strategic approach with direct, meaningful, and active participation from Texas and Federal officials can resolve the 2010 water debt.

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